

-10-

REMARKS

This communication is in response to the Office Action mailed on December 30, 2004. In the application, claims 1-39 were pending of which claims 1-39 were rejected.

The Office Action reports that claims 13-14 were rejected under 35 U.S.C. §102(b) as being clearly anticipated by U.S. Patent No. 5,450,127 to Shimizu et al. (hereinafter Shimizu). Claim 13 has been amended to recite an image capturing system comprising a visual sensor providing image data corresponding to sensed images from each of a writing surface and a second area spaced apart from the writing surface, the visual sensor comprising a set of adjacent sensing elements being exposed collectively to successive linear array portions of the images, a storage device for storing sensing element control values, and a controller coupled to the storage device and the visual sensor, the controller controlling a time duration of exposure of the sensing elements to each linear array portion of images as a function of exposure to successive linear array portions. [emphasis added]

It is submitted that claim 13 as amended is no longer worded in the alternative but includes both the writing surface and the second area. Also, claim 13 has been further amended to recite sensing images as sensing successive linear array portions of the images, i.e. scanning.

Shimizu provides "a one-dimensional image pickup device arranged at the imaging plane so as to extend in a first direction" [Col. 7, lines 38-40, emphasis added] and "scanning means for reciprocally scanning the imaging plane along a forward path and a reverse path in a second direction which is perpendicular to the first direction, thereby reciprocally moving said image pickup means in the second direction" [Col. 7, lines 43-47, emphasis added]. However, the first and second directions

-11-

and the forward and reverse directions relate to generating image data of the same object rather than indicating that the device scans images from both a whiteboard and a second area as in claim 13. Therefore, it is respectfully submitted that Shimizu does not teach, show, or suggest at least the feature of a visual sensor providing image data from each of a writing surface and a second area as recited in claim 13.

The below comments relating at least to claims 7 and 18 are also incorporated herein. Therefore, claim 13 is believed to be patentable over the cited art. Claims 14-17 depend on claim 13 and are believed to be separately patentable. Reconsideration and allowance of claims 13-17 are respectfully requested.

The Office Action next reports that claims 1-4 were rejected under 35 U.S.C. §103 as being unpatentable over U.S. Patent No. 5,528,290 to Saund (hereinafter Saund) in view of U.S. Patent No. 6,476,862 to Tatsumi (hereinafter Tatsumi).

Claim 1 has been amended to recited an image capturing system comprising a visual sensor providing image data corresponding to sensed images, the visual sensor selectively directed toward a first writing surface to sense successive linear array portions of a first image and toward a second area spaced apart from the first writing surface to sense successive linear array portions of a second image, an image processor coupled to the visual sensor to receive the image data from the visual sensor, the image processor adapted to identify the image data as a function of processing values, wherein the processing values are a function of direction of the visual sensor toward the first writing surface and the second area. [emphasis added]

Claim 1 has been amended so that a visual sensor senses successive linear array portions of a first image on a first writing surface and successive linear array portions of a second image on a second area. Support for claim 1 (and subsequent claims), especially linear array portions is found at least at

-12-

reference 14A in the figures and page 9, lines 13-16 of the Specification. In contrast, Saund apparently illustrates a different type of imaging where an image is captured as a plurality of tiles 62, 64, 66. However, the tiles are small regions of a larger board 60 but are not linear array portions as recited in claim 1. Further, Saund provides, "An electronic camera such as an ordinary video camera is mounted on a computer controlled pan/tilt head in the ceiling or to the side of the board. Images are captured by directing the camera successively at small regions of the board." [abstract, emphasis added] Thus, it is respectfully submitted that Saund does not teach, show or suggest the feature of sensing successive linear array portions (e.g. scanning) of a first image and a second image as recited in claim 1.

Therefore, claim 1 as amended is believed to be patentable over the cited art. Reconsideration and allowance of claim 1 are respectfully requested. Claims 2-6 depend on claim 1 and are believed to be separated patentable. Reconsideration and allowance of claims 1-6 are respectfully requested.

The Office Action next reports that claims 7, 18, 22, 26-27 and 30 were rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,330,082 to Oliver (hereinafter Oliver) in view of Tatsumi. Claim 7 has been amended to recite an image capturing system comprising a visual sensor adapted to provide image data corresponding to sensed visual images of a writing surface and a second area spaced apart from the writing surface, wherein the sensed visual images each comprise successive linear array portions, an image processor coupled to the visual sensor to receive the image data from the visual sensor, the image processor adapted to identify information provided on the writing surface apart from the writing surface and further adapted to identify information provided on the second area apart from the second area, and a storage device for storing

-13-

reference visual images, wherein the image processor is coupled to the storage device to access the reference visual images corresponding to each of the writing surface and the second area to identify information provided on the writing surface and the second area. [emphasis added]

First, it is unclear how Oliver and Tatsumi can be combined because Oliver apparently illustrates a scanner while Tatsumi illustrates a camera.

Further, even when combined, Oliver and Tatsumi do not teach, show, or suggest all the features of claim 7 as amended. Oliver and Tatsumi do not include at least a processor adapted to identify information provided on the writing surface apart from the writing surface and information provided on the second area apart from the second area and reference visual images corresponding to each of the writing surface and the second area to identify the information as recited in claim 7.

The Office Action notes that "identifying" is being interpreted as meaning "the system merely recreates the data written on the whiteboard as opposed to a blank whiteboard by reproducing the image data on a display screen or an associated printer." It is submitted that claim 7 has been further amended with the limitation of claim 8, which provides further detail on "identifying" so that reference images are stored and accessed to identify information provided on the writing board and the second area. Claim 8 has been cancelled.

For the Examiner's benefit, the specification at least at page 13, line 5 to page 14, line 27 describes how reference images can be used to identify information on a whiteboard and a second area. Also, FIG. 7 illustrates step 90 of obtaining reference visual images in the illustrative method.

It should be noted that the Office Action reports that claim 8 was rejected under Oliver and Tasumi as applied to claims 1 and 27 and further in view of U.S. Patent No. 5,764,799 to Hong et al.

-14-

(hereinafter Hong). The Office Action cites col. 4, lines 11-20 and col. 10, lines 43-50 of Hong to support accessing reference images. In particular, the Office Action reports that Hong teaches accessing the reference visual image to identify information provided on the writing surface. However, the cited passages specifically teach accessing reference images of characters used as a comparison for the image collected in order to determine if the character image matches with the reference character image. In contrast claim 7 recites storing "reference visual images corresponding to each of the writing surface and the second area." Accordingly, it is Hong does not teach or suggest this feature.

Further, Oliver and Tatsumi do not include scanning a second area as featured in claim 7. Tatsumi is a teleconference image input device, which presumably does not include scanning but instead apparently includes a video-type camera. Therefore, claim 7 is believed to be patentable over the cited art. Claims 9-12 depend on claim 7 and are believed to be separately patentable. Reconsideration and allowance of claims 7 and 9-12 are respectfully requested.

Claim 18 has been amended to recite, in combination with a defined writing surface provided in a fixed location in a room and a second area spaced apart from the writing surface, an image capturing system disposed in the room at a second location remote from the writing surface and the second area to sense successive visual images from each of the writing surface and the second area and adapted to identify information provided on the writing surface and the second area, wherein sensing comprises sensing successive linear array portions of each visual image, and wherein the image capturing system includes an image processor to identify information on the writing surface and a second area as a function of reference visual images of each of the writing surface and the second area. [emphasis added]

The comments relating to claim 7 are herein incorporated by

-15-

reference. Further, it is submitted that Oliver does not suggest scanning images on a whiteboard and a second area from a location remote from the whiteboard. Instead, Oliver illustrates in FIG. 1 scanning a single image 14 in close proximity to portable scanner 10. Oliver at FIG. 5 illustrates a remote scene 114 being scanned by portable scanner 10. Thus, in the embodiments illustrated in Oliver, the scanner is portable and apparently meant to be manually moved to scan images one at a time, either remotely or in close proximity. In contrast, the present application clearly illustrates visual sensor or scanner 13 as remote from both the writing board 14A and the second area 14B, 15. FIG. 7 illustrating a method of installation includes step 82 of "install visual sensor in fixed location" [emphasis added].

Further, claim 18 has been amended with the features of claim 19 so that information is identified as a function of a reference visual images of each of the writing surface and the second area in a manner similar to claim 7. Claim 19 has been cancelled. Claim 18 has been further amended so sensing comprises sensing successive linear array portions as discussed above.

Therefore, it is respectfully submitted that claim 18 is patentable over the cited art. Claims 20-26 depend on claim 18 and are believed to be separately patentable. Reconsideration and allowance of claims 18 and 20-26 are respectfully requested.

Claim 27 is a method claim and has been amended to recite a method of obtaining information provided on a writing surface and a second area spaced apart from the writing surface in a room, the method including, locating an image capturing system at a second location in the room remote from the writing surface and the second area, sensing visual images from each of the writing surface and the second area with the image capturing system, wherein sensing comprises sensing successive linear array portions of the visual images, and identifying information provided on the writing surface and the second area with the image capturing system,

-16-

wherein identifying information includes identifying information as a function of reference visual images of the writing surface and the second area. [emphasis added]

The above remarks are incorporated by reference herein. Therefore, it is submitted that the cited combination does not teach, show, or suggest all the features of claim 27. Claim 27 has been amended with the features of claim 28 and to include "successive linear array portions". Claim 28 has been cancelled.

Therefore, claim 27 is believed to be patentable over the cited art. Claims 29-39 depend on claim 27 and are believed to be separately patentable. Reconsideration and allowance of claims 27 and 29-39 are respectfully requested.

The Office Action further reports that claims 5 and 6 were rejected under 35 U.S.C. §103(a) as being unpatentable over Saund and Tatsumi as in claim 1 in further view of U.S. Patent No. 6,330,082 to Oliver (hereinafter Oliver). The remarks as to claim 1 are incorporated herein. Therefore, it is submitted that claim 1 is patentable over the cited combination. Claims 5 and 6 depend on claim 1 and are likewise believed to be patentable. Favorable action of claims 5 and 6 are solicited.

The Office Action next reports that claims 8-9, 11-12, 19, 28, 31-32, and 37-39 were rejected under Oliver and Tasumi as applied to claims 1 and 27 and further in view of U.S. Patent No. 5,764,799 to Hong et al. Hong was discussed above with respect to claim 7.

In this amendment, claim 8 has been cancelled. Claims 9, and 11-12 depend on claim 7 addressed above. Remarks relating to claim 7 are incorporated herein. Therefore, claims 9 and 11-12 depend on claim 7 and are believed separately patentable. Favorable action on claims 9, and 11-12 is solicited.

Further, claims 19 and 28 have also been cancelled. Claims 31-32, and 37-39 depend on claim 27, which was addressed above. Remarks relating to claim 27 are incorporated herein. Claims 31-32

-17-

and 37-39 are believed to be separately patentable. Favorable action on claims 31-32, and 37-39 is solicited.

The Office Action also reports that claims 33-35 were rejected under 35 U.S.C. §103 as unpatentable over Oliver, Tatsumi, Hong and further in view of U.S. Patent No. 5,999,214 (hereinafter Inagaki). Inagaki is a video conference system, which includes a video camera system and apparently has no scanners. Thus, it is believed that Inagaki is also less relevant to the claimed inventions. Claims 33-35 also depend on claim 27 discussed above and are believed to be separately patentable. Favorable action on claims 33-35 is solicited.

In view of the foregoing, applicants respect request reconsideration of the application as amended. Applicants hereby request an extension of time for consideration of this response. A charge authorization for the extension of time fee is enclosed. The Director is authorized to charge any fee deficiency required by this paper or credit any overpayment to Deposit Account No. 23-1123.

Respectfully submitted,

WESTMAN, CHAMPLIN & KELLY, P.A.

By: 

Steven M. Koshler, Reg. No. 36,188
Suite 1600 - International Centre
900 Second Avenue South
Minneapolis, Minnesota 55402-3319
Phone: (612) 334-3222 Fax: (612) 339-3312

SMK:jmb